

**ABSTRACT**

The bridged metallocene compound or the olefin polymerization catalyst which comprises the compound, enables high polymerization activity in polymerizing one or more monomers selected from ethylene and  $\alpha$ -olefins. The bridged metallocene compound contains specific substituted cyclopentadienyl and fluorenyl groups which are linked via carbon or silicon atoms. In the method for the preparation of polyolefins, one or more monomers, preferably ethylene as an essential monomer, selected from ethylene and  $\alpha$ -olefins are copolymerized in the presence of the olefin polymerization catalyst comprising the bridged metallocene compound, so that an ethylene based polymer with an ethylene content of more than 50 mol% is obtained.

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